

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicants: Sascha Kreiskott

Docket No.: S-99,952

Serial No.: 10/624,350

Examiner: M. Alexander

Filed : 7/21/2003

Art Unit: 1742

For : **HIGH CURRENT DENSITY ELECTROPOLISHING IN THE  
PREPARATION OF HIGHLY SMOOTH SUBSTRATE TAPES FOR  
COATED CONDUCTORS**

Customer No. 35068

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**DECLARATION UNDER 37 CFR §1.132**

Sir:

In support of the Amendment/Response submitted concurrently herewith, we, the undersigned, declare as follows:

- 1) That we, Vladimir Matias, Paul N. Arendt, Stephen R. Foltyn, and Lawrence E. Bronisz, are inventors of the subject matter claimed in the above-identified U.S. Patent Application (hereinafter "Application");
- 2) That the fourth inventor of the subject matter of the invention, Sascha Kreiskott, is out of the country and therefore unavailable to execute this declaration;
- 3) The subject matter claimed in the Application is described in the publication entitled "Continuous Electropolishing of Hastelloy Substrates for Ion-Beam Assisted Deposition," appearing in Supercond. Sci. Techno. 16 (2003) 613-615 (hereinafter "the Publication"), by the named inventors of the Application;
- 4) That, the scope of the Publication, as described in the accompanying Declaration by the inventors under 37 CFR §1.132, would be understood by those of ordinary skill in the art to be commensurate with the scope of the claims of the Application;

5) That, contrary to the Examiner's statements that the description in the Publication of electropolishing a metallic tape having a roughness of 20 nm is not commensurate with electropolishing a metallic tape having an initial roughness of more than 10 nm as claimed in Claim 1, and an initial roughness of more than 10 nm would include surfaces with roughness "orders of magnitude higher," one of ordinary skill in the art would recognize and understand: a) that an initial roughness of 20 nm is "more than 10 nm" and thus within the range claimed; b) that the upper limit of initial roughness capable of being electropolished to the claimed roughness of 4 nm can be determined without undue experimentation would not include surfaces having a roughness "orders of magnitude higher" than that claimed; and c) that the scope of initial roughness described in the Publication as therefore being commensurate with the scope of Claim 1;

6) That, contrary to the Examiner's statement that the description in the Publication of applying current densities of  $0.17 \text{ A/cm}^2$  and  $0.37 \text{ A/cm}^2$  is not commensurate with applying current densities of "at least  $0.18 \text{ A/cm}^2$ " and "at least  $0.37 \text{ A/cm}^2$ ," as claimed in Claims 1 and 3, and that the claimed current densities would include current densities "orders of magnitude higher," the Publication states that the applied current density is in the *range* of " $0.17 \text{ A/cm}^2$  and  $0.37 \text{ A/cm}^2$ " (see page 614, column 2, lines 11-12, of the Publication) and that one of ordinary skill in the art would recognize and understand that: a) the current densities recited in Claim 1 of "at least  $0.18 \text{ A/cm}^2$ " and "at least  $0.37 \text{ A/cm}^2$ " fall within the range recited in the publication; c) that the current densities would not be "orders of magnitude higher" than that claimed and that an upper limit of the current densities that may be practically used for electropolishing can be determined without undue experimentation, and that such an upper limit of current densities would be commensurate with the range of current densities described in the Publication;

7) That, contrary to the Examiner's statement that the description in the Publication of reducing the roughness to 4 nm and to 0.5 nm is not commensurate with reducing the roughness to less than about 4 nm as claimed in Claim 1, which would include roughnesses of "orders of magnitude less than 0.5 nm," one of ordinary skill in the art would recognize and understand: a) that a roughness of 0.5 nm as described in the Publication is within the claimed range of less than 4 nm, thus providing evidence of conception; b) that the roughness would not be "orders of magnitude less than 0.5 nm," and that a lower limit to the roughness can be

determined without undue experimentation and that such a lower limit would be commensurate with the range of roughnesses described in the Publication;

8) That all statements made herein of my own knowledge are true, and that all statements made on information and belief are believed to be true; and

6) That these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon;

7) Further Declarants sayeth not.

Vladimir Matias  
Vladimir Matias

9-14-06

Date

Paul N. Arendt  
Paul N. Arendt

9/15/06

Date

Stephen R. Foltyn  
Stephen R. Foltyn

7/14/06

Date

Lawrence E. Bronisz  
Lawrence E. Bronisz

9/14/06

Date

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- 1) That we, Vladimir Matias, Paul N. Arendt, Stephen R. Foltyn, and Lawrence E. Bronisz, are inventors of the subject matter claimed in the above-identified U.S. Patent Application (hereinafter "Application");
- 2) That the fourth inventor of the subject matter of the invention, Sascha Kreiskott, is out of the country and therefore unavailable to execute this declaration;
- 3) That the invention that is the subject matter of this Application was completed at a date prior to July 1, 2003, which is the effective date of U.S. patent publication 2005/0000826 by Qiao cited by the Examiner in the March 15, 2006 Office Action;
- 4) That a date of invention prior to the effective date of Qiao, and on or before February 25, 2003, is evidenced by the publication entitled "Continuous Electropolishing of

Hastelloy Substrates for Ion-Beam Assisted Deposition," appearing in Supercond. Sci. Techno. 16 (2003) 613-615 (hereinafter "the Publication"), by the named inventors of the Application;

5) That, the scope of the Publication, as described in the accompanying Declaration by the inventors under 37 CFR §1.132, would be understood by those of ordinary skill in the art to be commensurate with the scope of the claims of the Application;

6) That all statements made herein of my own knowledge are true, and that all statements made on information and belief are believed to be true; and

7) That these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon;

8) Further Declarants sayeth not.

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9/15/06

Date

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